

CLAIMS

1. A swing compressor comprising:

5 a cylinder (6) which defines a cylinder chamber (8);

a piston (4) composed of a generally cylindrical-shaped roller (2) which orbitally revolves along an inner surface of the cylinder chamber (8) and a blade (3) which is formed integrally with the roller (2) and which is
10 swingably held by the cylinder (6); and

a drive shaft (1) having an eccentric portion (5) which is slidably fitted to an inner circumferential sliding surface (14) of the roller (2), wherein

15 the piston (4) divides a space inside of the cylinder (6) into a suction chamber (12) and a compression chamber (13) and performs a swing motion by rotation of the drive shaft (1), and wherein

the inner circumferential sliding surface (14) of the roller (2) includes

20 a large-width portion (15) which receives a heavy load; and

a small-width portion (16) which is smaller in width than the large-width portion (15) and which receives a light load.

2. The swing compressor as claimed in Claim 1,
wherein

assuming that a reference line (O) is given by an
intersecting line between a plane (P) passing through a
5 center of the blade (3) and parallel to the blade (3) and
the inner circumferential sliding surface (14) of the
roller (2), the small-width portion (16) is formed over a
range from a line (A) obtained by a 30° displacement of the
reference line (O) to a line (B) obtained by a 180°
10 displacement of the reference line (O) in a rotational
direction of the drive shaft (1) in the inner
circumferential sliding surface (14).

3. The swing compressor as claimed in Claim 1,
15 wherein

the small-width portion (16) is provided on one
side with respect to a plane (P) passing through a center
of the blade (3) and parallel to the blade (3), the one
side including a suction port (11) which is provided in the
20 cylinder (6) and which communicates with the suction
chamber (12).

4. The swing compressor as claimed in Claim 1,
wherein

the piston (4) is placed so as to orbitally revolve along a horizontal plane, and

an upper edge of the small-width portion (16) is located lower than an upper edge of the large-width portion (15).

5 5. The swing compressor as claimed in Claim 1, wherein

10 the drive shaft (1) is so placed as to be inclined with respect to a horizontal plane, and

 an upper edge of the small-width portion (16) is located lower than an upper edge of the large-width portion (15) with respect to a direction of the drive shaft (1).

15 6. The swing compressor as claimed in Claim 5, wherein

 the drive shaft (1) is placed along a vertical direction.

20 7. The swing compressor as claimed in Claim 1, wherein

 the piston (4) is formed of a sintered material.